

FCC ET Docket 13-44

Comments Relating to **Proposal for all Test Labs to be Accredited for Certification Testing**

Submitted by: **dB Technology**

dB Technology is an independent EMC/Radio Test Site located in the United Kingdom. The dB Technology test facilities are "listed" with the FCC but are not "accredited".

The proposal is to require that all testing for **certification** must be performed at an "accredited" test lab. Currently it is just sufficient for details of the test lab and its radiated emissions calibration data to be "listed" with the FCC.

This proposal is part of a package of proposals to update the current authorisation program. The suggestion is that the requirement for "accreditation" would be introduced to balance one of the other proposals, namely that, in the future, all **certification** submissions will be handled by TCBs rather than directly by the FCC. About 90% of submissions are already handled by TCBs and no evidence has been provided to suggest that the combination of "assessment by a TCB" and the "use of a non-accredited test lab" has led to unacceptable incidents of non-compliance. It is true that, under the new proposals, some "new technology" products will now be allowed to be assessed by TCBs - but these will be, by their very nature, keenly analysed by the TCB, probably in conjunction with specific guidance by the FCC and most likely to be re-tested under the post-market surveillance scheme.

On this basis we do not believe that "accreditation" of test labs goes "hand-in-hand" with the other proposals. The other proposals can easily go ahead without the requirement for test labs to be "accredited". If the need for "accreditation" of test labs is to be considered it should be assessed on its own merits.

Mandating "accreditation" will certainly have a negative impact on many smaller independent test labs and manufacturer's own in-house test facilities where the overheads of "accreditation" will be proportionally more significant. In these cases the proposal will lead to increased test costs or the closure of local test facilities. The change should only be implemented if there are strong arguments and evidence that it will result in tangible improvements to the compliance of products placed on the market.

The existing post-market surveillance process requires a TCB to do checks on 5% of submissions that they handle. This system alone should be sufficient to detect consistent problems of poor quality or inaccurate test data from either accredited or unaccredited test labs.

In many territories (Canada, Europe, Australia, New Zealand) there is no similar requirement for **certification** or "accredited" testing for most unintentional radiators and, in many cases, certain intentional transmitters. Is there any evidence from these countries that unacceptably high incidents of interference should make them rethink and introduce the need for "accreditation"?

The existing program only requires **verification** for many types of products which have equal potential to cause interference as are PCs or a PC peripherals. Examples are DVD players, gaming machines, switched mode power supplies. Accredited testing or submission to a TCB are not required (or proposed) under **verification**. Is there any evidence of unacceptable levels of non-compliance for these products to justify the benefits of "accrediting" testing?

Section 11 of the proposal document states that the "*current Equipment Authorisation program has served well in controlling interference*". This is despite the fact that there are several contributing factors that are not rigorously assessed under the current scheme that could be considered to pose a higher risk to overall compliance than the "accreditation" status of the test lab. Examples of these factors include build quality, change control, end user

implementation and blatant disregard for the FCC authorisation program. If the light, or non-existent, regulation applied to these factors is adequate for the existing program to be considered to “*serve well in controlling interference*” it is difficult to also argue that requiring “accreditation” for the one-off test required for **certification** (the most regulated part of the existing program) is justified.

Poor **Build quality** can lead to very significant differences between product samples.. Just the small repositioning of a ribbon cable in a product can change an emission levels by 10dB or more. There is currently **no** assessment of the manufacturing process (“accredited” or otherwise. *(Note: This issue is only very partially addressed by the post-market surveillance scheme because it only covers products under the **certification** route, the product tested under the scheme could come from the same production batch as the sample for the initial “type test” and the manufacturer has the opportunity to perform preliminary tests, to ensure compliance, before submitting the sample.)*

Within certain guidelines, it is left to the manufacturer to decide if a **change** is likely to affect compliance. For **certified** products it is necessary to re-submit test data for certain changes, including all changes that increase interference levels. Will a manufacturer have to use an “accredited” test facility to decide whether a change is a Class I or a Class II permissive change? Must a product that has been authorised through the **DoC** route be reassessed for all changes at an “accredited” test lab or can preliminary tests at a non-accredited test site be used to justify that no further action is required? Under the current program a product can be sold for many years with no further testing performed despite the fact that some apparently low risk changes (e.g. pin-for-pin replacement IC) could, in fact, have very significant effects on product compliance.

End-user implementation can drastically affect the compliance of a product. For example, the use of a screened cable may be specified by the manufacturer but, even if the end user is conscientious, there is no control over the screening performance of off-the-shelf cables. It will be impossible for the end-user to know if the cable chosen is adequate.

Our view is that the proposal document does not assess any of the negative aspects of requiring “accreditation” for **certification** testing (i.e. increased costs and loss of test facilities), it does not give any indication of the expected scale of improvement (if any) in overall compliance by introducing this measure and does not put it in context with all the other factors that have a bearing on overall compliance.

The document also does not seize the opportunity to consider, or invite comments, on the possibility of reducing the burden on manufacturers. Many of the points already put forward above could be used to argue that, at relatively low risk, more products types could be assessed under the **verification** program.

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Comments Relating to **Post-market Surveillance Program**

Submitted by: **dB Technology**

dB Technology is an independent EMC/Radio Test Lab located in the United Kingdom.

We agree that a proper well-managed post-market surveillance program has a number of benefits. It would provide a useful cross-check of the application of the FCC rules, the interpretation of the standards and the accuracy of the testing. Furthermore, it could provide a means of ensuring manufacturers pay adequate attention to build quality and change control.

However we feel the current scheme, even taking in all of the new proposals, has a number of flaws.

Only products currently subject to **certification** are included. It doesn't include products properly assessed under any of the other approval routes. It certainly does not include products that have been assessed under the wrong procedure or not tested at all. For example it is easy to mistakenly, or intentionally, add a FCC logo to a product that should be assessed under DoC but has in fact, at best, just been **verified**.

Any retesting under the scheme would normally be performed relatively soon after the initial submission and so the sample is likely to be from the same production batch as the original. This would likely miss any issues due to poor build quality or change control.

A sample is normally requested from the manufacturer, giving them sufficient time to ensure the sample sent for testing is a "golden sample".

The TCB would normally only re-assess products which they themselves have originally assessed and will have often been tested by the same TCB or a sister test lab. There is little incentive for a TCB to fail a product under the "post-market" surveillance scheme and then have to go back to the applicant and tell them that the product that they had originally passed is now non-compliant. This is a potentially embarrassing situation for the TCB.

The scheme does not give much in the way of guidance for assessment. For example, radiated emissions testing are subject to relatively high levels of uncertainty and some variation between samples is to be expected. What happens if a product originally submitted for approval complied with a margin of, say, 2dB and then fails the post-market surveillance assessment by 4dB. Would the product have to be improved? Would it be pulled from sale?

One radical option would be to reduce the complexity (and cost) of the current certification program and allow manufacturers to "self-submit" their own information and compliance evidence to a central database in order to be able to use an FCC ID. The fees collected as part of this process (less than the current certification fees) could be used to fund a more comprehensive enforcement process, controlled by the FCC, but making use of the expertise and resources of TCBs. The FCC could, for example, put various enforcement "projects" out to tender to TCBs. If effective, this program could easily be rolled out to cover products that currently come under the other assessment routes. The cost to manufacturers would be just the time and effort required to submit to the database (they should already be meeting the appropriate regulations and have any necessary test data) and the relatively low submission fee.

The FCC will then have a database of ALL types of interference causing products on the market place making it easier to apply a comprehensive "post-market" surveillance program which can be tweaked as evidence is gathered of the areas that need most attention. This scheme could even have a time limit whereby after a prescribed time (e.g. five years) a resubmission is necessary to ensure continuing compliance and to encompass any changes to FCC rules.

FCC ET Docket 13-44

Comments Relating to **Proposal for specifying use of ANSI C63.4:2009**

dB Technology is an independent EMC/Radio Test Lab located in the United Kingdom.

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We agree that the current arrangement whereby testing above 1GHz can be performed according to ANSI C63.4:2003 is not satisfactory because characterisation of a test site below 1GHz gives no indication of its performance above 1GHz. We also agree that just adding absorber to the ground plane does not guarantee adequate performance above 1GHz.

We do however urge the FCC to recognise that introducing this requirement will require some test labs to invest heavily in modifying existing facilities or commissioning new facilities. This will be costly and take time. Although test labs have been aware for some time that ANSI C63.4:2009 would be introduced at some stage, it was not evident that full calibration according to CISPR 16 would be required rather than just adding absorber to the ground plane.

We also feel there are some issues the FCC should clarify before test labs commit themselves to this level of investment.

One issue is that the current wording of section 5.5 of ANSI C63.4:2009 states that a test site for measurements above 1GHz "must be suitable for measurements below 1 GHz". This is not technically justified if a test site fully meets the calibration characteristics of CISPR 16 above 1GHz. There are good technical and logistic reasons why a test lab may opt to commission one facility for testing below 1GHz and a different facility for testing above 1GHz. Are the FCC really insisting that a facility intended just for testing above 1GHz must be of a suitable size and have additional (expensive and compromised) absorber just to show that it "could" be used for testing below 1GHz?

Another issue is the requirement to height scan to 4m. The FCC does not currently accept the CISPR method of performing radiated measurements above 1 GHz, in part, because there is a limited requirement to "height scan".

The ANSI standard (and interpretation documents) and FCC measurement guides recognise that height scanning to 4m whilst ensuring the "cone" of radiation is within the 3dB bandwidth of the receiving antenna is not always practical and other methods such as rotating the EUT can be considered. Can the FCC confirm that rotating the axis of the EUT is sufficient to meet their requirements and any new facilities commissioned to meet the proposed requirements above 1GHz do not necessarily have to provide the ability to height scan to 4m (with "bore site" maintaining antenna support).

Clarification of these two points will allow test labs to confidently commission smaller, cheaper test facilities for testing above 1GHz with absorber that is most effective over this frequency range.